

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended) A session relay method for relaying a session between a data transmission terminal and a data reception terminal, comprising the steps of:
 - a step of monitoring data amount within a data storing unit;
 - a step of requiring calculating a receivable amount so that the receivable amount comprises to take a value smaller than empty data amount being calculated from the data amount of the data storing unit, obtained according to said data amount; and
 - a step of informing the data transmission terminal of said the receivable amount.

2. (currently amended) A session relay method for relaying a session between a data transmission terminal and a data reception terminal, comprising the steps of:
 - a step of measuring time while a data storing unit is empty;
 - a step of judging whether a transmission amount is reduced or not, based on the time and a network situation relating to throughput for a data transmission, and
 - a step of determining a transmissive amount based on the judgment in data transmission processing, according to a judgment result whether transmission amount is reduced or not, when

~~transmission data based on the monitoring result of the data amount within the data storing unit and a network situation, does not exist for a predetermined period.~~

3. (currently amended) A session relay method for relaying a session between a data transmission terminal and a data reception terminal, comprising the steps of:

a step of monitoring data amount within a data storing unit and measuring time while the data storing unit is empty;

a step of requiring calculating a receivable amount so that the receivable amount comprises to take a value smaller than empty data amount being calculated from the data amount, of the data storing unit, obtained according to said data amount as a transmissive amount to be informed to the data transmission terminal and informing the data transmission terminal of the received amount; and

a step of judging whether a transmission amount is reduced or not, based on the time and a network situation relating to throughput for a data transmission, and determining a data transfer transmissive amount based on the judgment in data transmission processing, according to a judgment result whether transmission amount is reduced or not when transmission data based on the monitoring result of the data amount within the data storing unit and a network situation does not exist for a predetermined period.

4. (currently amended) The session relay method as set forth in Claim 1 or Claim 3,
further comprising:

a step of setting a plurality of thresholds for ~~said the~~ empty data amount ~~within the data~~
~~storing unit~~ and

determining calculating a the receivable amount to take a value smaller than ~~said empty~~
~~data amount within the data storing unit, according to another function with a plurality of~~
~~functions each of which are set with respect to within a range of respective ranges being~~
~~determined by the thresholds.~~

5. (currently amended) The session relay method as set forth in Claim 1 or Claim 3,
comprising:

a step of setting a plurality of thresholds for ~~said the~~ empty data amount ~~within the data~~
~~storing unit~~ and

fixing a value in proportion determining the receivable amount with respect to respective
ranges being determined by the thresholds,

wherein the receivable amount is proportional to one divided a value being calculated by
dividing the empty data amount by a positive number of said empty data amount within the data
storing unit,

wherein the receivable amount a value in proportion is proportional to a value being calculated by multiplying the empty data amount multiplied by a positive number of said empty data amount within the data storing unit;

wherein the receivable amount is a fixed predetermined value less than the empty data amount within the data storing unit, or a value required in these combination, as a receivable amount, within the range of the respective thresholds.

6. (currently amended) The session relay method as set forth in Claim 1 or Claim 3, comprising:

a step of setting a plurality of thresholds for ~~said the~~ empty data amount ~~within the data storing unit~~ and

fixing as calculating a the receivable amount, a value of a function which with a plurality of functions each of which are set with respect to respective ranges being determined by the thresholds, wherein each of the functions decreases the receivable amount monotonously according as according to a decrease in the empty data amount within the data storing unit decreases, and each of the functions are continuous with each other which is continuous on the whole and gets a value smaller than said empty data amount within the data storing unit, using the individual function for each threshold.

7. (currently amended) The session relay method as set forth in Claim 2 or Claim 3, comprising:

a step of judging whether the transmissive amount is reduced or not, ~~according to based on the time and the network situation,~~

wherein the network situation includes information for specifying at least one of a user, an application, or priority of data,

wherein information for specifying ~~a~~ the user ~~such as~~ comprises IP address, ID of VLAN, ~~and~~ or MAC address,

wherein information for specifying ~~a~~ the application ~~such as~~ comprises port number of TCP, and

wherein information for specifying priority of data ~~such as~~ comprises a TOS field in the ~~an~~ IP header, a priority in the ~~a~~ VLAN header, ~~and~~ or a priority in the ~~a~~ MPLS header.

8. (currently amended) The session relay method as set forth in Claim 2 or Claim 3, comprising:

a step of judging ~~that whether~~ the transmissive amount is initialized or not based on the network situation when the data storing unit continues to be empty ~~of~~ data for a predetermined period.

9. (currently amended) The session relay method as set forth in Claim 2 or Claim 3, comprising:

a step of judging ~~that whether~~ the transmissive amount is initialized ~~or not based on the network situation~~ when the data storing unit continues ~~to be empty of data~~ for a predetermined period, ~~said predetermined period being determined according to~~

wherein the network situation includes information for specifying at least one of a user, an application, or priority of data,

wherein the information for specifying ~~a~~ ~~the~~ user ~~such as~~ comprises IP address, ID of VLAN, ~~and~~ or MAC address,

wherein the information for specifying ~~an~~ ~~the~~ application ~~such as~~ comprises port number of TCP, and

wherein the information for specifying priority of data comprises ~~a~~ ~~such as~~ TOS field in a IP header, ~~a~~ priority in a VLAN header, ~~and~~ or ~~a~~ priority in a MPLS header.

10. (canceled).

11. (currently amended) A session relaying apparatus for relaying a session between a data transmission terminal and a data reception terminal, comprising:

~~a unit which receives data transmitted from the data transmission terminal;~~

a monitoring unit which monitors a data amount within a data storing unit;
a calculating unit, implemented by a processor, which requires calculates a receivable amount so that the receivable amount comprises to take a value smaller than said empty data amount being calculated from the data amount; and
a an informing unit which informs the data transmission terminal of the receivable amount creates an acknowledgement signal based on said receivable amount and transmits the signal to the data transmission terminal.

12. (currently amended) A session relaying apparatus for relaying a session between a data transmission terminal and a data reception terminal, comprising:

a unit which receives an acknowledgement signal from the data reception terminal;
a unit which monitors data amount within a data storing unit;
a measuring unit which measures time while a data storing unit is empty;
an initialization judging unit, implemented by a processor, which judges whether a transmission amount is reduced or not based on the time and a network situation relating to throughput for a data transmission when transmission data does not exist for a predetermined period based on a network situation; and
a determining unit which determines a transmissive amount based on the judgment according to the monitoring result of said data monitor and the judgment of said initialization judging unit and transmits the data.

13. (currently amended) A session relaying apparatus for relaying a session between a data transmission terminal and a data reception terminal, comprising:

~~a unit which receives data transmitted from the data transmission terminal;~~

~~a monitoring unit which monitors a data amount within a data storing unit;~~

~~a calculating unit, implemented by a processor, which requires calculates a receivable amount so that the receivable amount comprises to take a value smaller than said empty data amount being calculated from the data amount;~~

~~a-an informing unit which informs the data transmission terminal of said the receivable amount;~~

~~a unit which creates an acknowledgement signal based on said informed amount;~~

~~a unit which receives an acknowledgement signal from the data reception terminal;~~

~~a measuring unit which measures time while the data storing unit is empty;~~

~~an initialization judging unit which judges whether a transmission amount is reduced or not based on the time and a network situation relating to throughput for a data transmission when transmission data does not exist for a predetermined period based on a network situation; and~~

~~a determining unit which determines a transmissive amount based on the judgment according to the monitoring result of said data monitor and the judgment of said initialization judging unit and transmits the data.~~

14. (currently amended) The session relaying apparatus as set forth in Claim 11 or
Claim 13, in which wherein

a plurality of thresholds is set for said the empty data amount within the data storing unit,
and a the receivable amount is determined calculated to take a value smaller than said empty data
amount within the data storing unit, according to another function with a plurality of functions
each of which are set with respect to within a range of the respective thresholds respective ranges
being determined by the thresholds.

15. (currently amended) The session relaying apparatus as set forth in Claim 11 or
Claim 13, in which wherein

a plurality of thresholds are set for said the empty data amount within the data storing
unit, and determining the receivable amount with respect to respective ranges being determined
by the thresholds,

wherein the receivable amount is proportional a value in proportion to one divided a
value being calculated by dividing the empty data amount by a positive number, of said empty
data amount within the data storing unit,

wherein the receivable amount a value in proportion is proportional to a value being
calculated by multiplying the empty data amount multiplied by a positive number, of said empty
data amount within the data storing unit,

wherein the receivable amount is a fixed predetermined value less than said the empty data amount within the data storing unit, or a value required in these combination, is fixed as a receivable amount within the range of the respective thresholds.

16. (currently amended) The session relaying apparatus as set forth in Claim 11 or
Claim 13, in which wherein

a plurality of thresholds are set for said the empty data amount within the data storing unit, and

the receivable amount is calculated with a plurality of functions each of which are set with respect to respective ranges being determined by the thresholds, wherein each of the functions a value of a function which decreases the receivable amount monotonously according as said according to a decrease in the empty data amount within the data storing unit decreases, and each of the functions are continuous with each other which is continuous on the whole and gets a value smaller than the empty data amount within the data storing unit, is fixed as the receivable amount, using the individual function for each threshold.

17. (currently amended) The session relaying apparatus as set forth in Claim 12 or
Claim 13, in which

whether the transmissive amount is reduced or not, is judged, according to

wherein the network situation includes information for specifying at least one of a user, an application, or priority of data,

wherein information for specifying a the user such as comprises IP address, ID of VLAN, and or MAC address,

wherein information for specifying an the application such as comprises port number of TCP, and

wherein information for specifying priority of data such as comprises a TOS field in the an IP header, a priority in the a VLAN header, and or a priority in the a MPLS header.

18. (currently amended) The session relaying apparatus as set forth in Claim 12 or Claim 13, ~~in which~~ wherein

~~said the~~ initialization judging unit judges ~~that~~ whether the transmissive amount is initialized or not based on the network situation when the data storing unit continues to be empty of data for a predetermined period.

19. (currently amended) The session relaying apparatus as set forth in Claim 12 or Claim 13, ~~in which~~ wherein

~~said the~~ initialization judging unit judges ~~that~~ whether the transmissive amount is initialized or not based on the network situation when the data storing unit continues to be empty of data for a predetermined period, ~~said predetermined period being determined according to~~

wherein the network situation includes information for specifying at least one of a user, an application or priority of data,

wherein the information for specifying a the user such as comprises IP address, ID of VLAN, and or MAC address,

wherein the information for specifying an the application such as comprises port number of TCP, and

wherein the information for specifying priority of data such as comprises a TOS field in a IP header, a priority in a VLAN header, and or a priority in a MPLS header.

20. (canceled).

21. (currently amended) A session relay program non-transitory computer readable medium storing instructions readable by computer for performing a method for relaying a session between a data transmission terminal and a data reception terminal, executed on a computer, the method comprising the function of:

a function of monitoring a data amount within a data storing unit,

calculating requiring a receivable amount so that the receivable amount comprises to take a value smaller than empty data amount being calculated from the data amount of the data storing unit, obtained according to said data amount, and

informing the data transmission terminal of said the receivable amount.

22. (currently amended) A session relay program non-transitory computer readable medium storing instructions readable by computer for performing a method for relaying a session between a data transmission terminal and a data reception terminal, executed on a computer, the method comprising the function of:

measuring time while a data storing unit is empty;

judging whether a transmission amount is reduced or not, based on the time and a network situation relating to throughput for a data transmission, and

a function of determining a transmissive amount based on the judgment in data transmission processing, according to a judgment result whether transmission amount is reduced or not, when transmission data based on the monitoring result of the data amount within the data storing unit and a network situation, does not exist for a predetermined period.

23. (currently amended) A session relay program non-transitory computer readable medium storing instructions readable by computer for performing a method for relaying a session between a data transmission terminal and a data reception terminal, executed on a computer, the method comprising the function of:

a function of monitoring data amount within a data storing unit[[],];

measuring time while the data storing unit is empty;

calculating requiring a receivable amount so that the receivable amount comprises value smaller than empty data amount, which is calculating from the data amount, of the data storing unit, obtained according to said data amount as a receivable amount to be informed to the data transmission terminal, and informing the data transmission terminal of the receivable amount;

judging whether a transmission amount is reduced or not, based on the time and a network situation relating to throughput for a data transmission; and

determining a data transfer transmissive amount based on the judgment in data transmission processing, according to a judgment result whether transmission amount is reduced or not when transmission data based on the monitoring result of the data amount within the data storing unit and a network situation does not exist for a predetermined period.

24. (currently amended) The session relay program non-transitory computer readable medium as set forth in Claim 21 or Claim 23, comprising:

a function of setting a plurality of thresholds for the said empty data amount; within the data storing unit and

determining a calculating the receivable amount to take a value smaller than said empty data amount within the data storing unit, according to another function with a plurality of functions each of which are set with respect to within a range of the respective thresholds respective ranges being determined by the thresholds.

25. (currently amended) The session relay program non-transitory computer readable medium as set forth in Claim 21 or Claim 23, comprising:

a function of setting a plurality of thresholds for said the empty data amount; within the data storing unit and

fixing a value in proportion determining the receivable amount with respect to respective ranges being determined by the thresholds,

wherein the receivable amount is proportional to one divided a value being calculated by dividing the empty data amount by a positive number of said empty data amount within the data storing unit,

wherein the receivable amount a value in proportion is proportional to a value being calculated by multiplying the empty data amount multiplied by a positive number of said empty data amount within the data storing unit,

wherein the receivable amount is a fixed predetermined value less than the empty data amount within the data storing unit, or a value required in these combination, as a receivable amount, within the range of the respective thresholds.

26. (currently amended) The session relay program non-transitory computer readable medium as set forth in Claim 21 or Claim 23, comprising:

a function of setting a plurality of thresholds for said the empty data amount within the data storing unit and

fixing as calculating a the receivable amount, a value of a function which with a plurality of functions each of which are set with respect to respective ranges being determined by the thresholds, wherein each of the functions decreases the receivable amount monotonously according as according to a decrease in the empty data amount within the data storing unit decreases, and each of the functions are continuous with each other which is continuous on the whole and gets a value smaller than said empty data amount within the data storing unit, using the individual function for each threshold.

27. (currently amended) The session relay program non-transitory computer readable medium as set forth in Claim 22 or Claim 23, comprising:

a function of judging whether the transmissive amount is reduced or not, according to based on the time and the network situation,

wherein the network situation includes information for specifying at least one of a user, an application, or priority of data,

wherein information for specifying a the user such as comprises IP address, ID of VLAN, and or MAC address,

wherein information for specifying an the application such as comprises port number of TCP, and

wherein information for specifying priority of data such as comprises a TOS field in the an IP header, a priority in a the VLAN header, and or a priority in the a MPLS header.

28. (currently amended) The session relay program non-transitory computer readable medium as set forth in Claim 22 or Claim 23, comprising:

a function of judging that whether the transmissive amount is initialized or not based on the network situation when the data storing unit continues to be empty of data for a predetermined period.

29. (currently amended) The session relay program non-transitory computer readable medium as set forth in Claim 22 or Claim 23, comprising:

a function of judging that whether the transmissive amount is initialized or not based on the network situation when the data storing unit continues to be empty of data for a predetermined period, said predetermined period being determined according to

wherein the network situation includes information for specifying at least one of a user, an application, or priority of data,

wherein the information for specifying a the user such as comprises IP address, ID of VLAN, and or MAC address,

wherein the information for specifying an the application such as comprises port number of TCP, and

wherein the information for specifying priority of data such as comprises a TOS field in a IP header, a priority in a VLAN header, and or a priority in a MPLS header.

30. (canceled).